

**Testimony
before the
Commerce, Science and Transportation Committee
Subcommittee on Science, Technology and Space**



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**Hearing on S. 414, the National Technology Instrumentation Challenge Act
Wednesday, February 27, 2002, 2:00pm**

Introduction

Mr. Chairman and distinguished Members of the Senate Commerce, Science and Transportation Committee and the Subcommittee on Science, Technology and Space, I am Dr. Frederick S. Humphries, President and Chief Executive Officer of the National Association for Equal Opportunity in Higher Education (NAFEO). First, I want to thank you for the opportunity to participate in this hearing on S. 414, the National Technology Instrumentation Challenge Act. This legislation seeks to amend the National Telecommunications and Information Administration Organization Act and ultimately develop a digital network technology program by providing targeted and increased federal support to Minority Serving Institutions (MSIs) to help close the digital divide. Second, I would like to thank Senator Cleland and the original co-sponsors for sponsoring this bill. Moreover, I must acknowledge their vision, compassion, and leadership in recognizing the need for the Congress to take a giant step in closing the digital divide and to stimulate national awareness and involvement in this area.

This is truly an historic event. By having this hearing and addressing the technology and digital divide issues that affect MSIs, we are moving one step closer to closing the divide. As the CEO of NAFEO and a former college president, I believe that this hearing is an exemplary way to put MSIs in a leadership role—by being at the table to help formulate policy and assist in the decision making process for issues that directly affect our institutions. Moreover, the ultimate enactment of this legislation will put MSIs in a position to better address national science and technology (S&T) and workforce objectives, including engaging those communities where the digital divide is most serious. I am sure that this hearing will hasten a dialogue that is long overdue.

Background

NAFEO serves as the national umbrella organization for a combined membership of 118 predominately and Historically Black Colleges and Universities (HBCUs)—103 HBCUs and 15 other predominately Black Institutions. Our mission is to champion the interests of our member institutions through the executive, legislative and judicial branches of federal and state government, and to articulate the needs for a system of higher education where race, ethnicity, socio-economic status, and previous educational attainment levels are not determinants of either the quantity or quality of higher education. The organization takes lead responsibility for the development and dissemination of public policies, programmatic efforts, and strategic and educational materials that: (1) enhance the role of HBCUs, generally, and (2) promote African American student enrollment and attainment, specifically. NAFEO is comprised of institutions of higher education that represent a broad spectrum of interests – public and private, large and small, urban and rural, liberal arts, agricultural, and research. Of the HBCUs that belong to NAFEO, 46% are public, and 54% are private. The organization's membership is comprised of 2-year and 4-year institutions, as well as schools that offer advanced and professional degrees, and they are situated in every quarter of the country, the District of Columbia, and the Virgin Islands.

At the time of Brown vs. Topeka Board of Education and the end of de jure segregation in the

public schools, but not the end of racially exclusive, whites-only systems of higher education in the South or nearly all-white systems of higher education in the north, HBCUs were producing more than 90% of all Black baccalaureates and more than 90% of all Blacks who went on to become doctors, lawyers, and PhDs. Now, HBCUs still enroll the largest concentration of both the well and under prepared African American students, many of whom come from high poverty school systems and low-income families. While HBCUs enroll approximately 16 percent of all African American undergraduate students, these institutions graduate about 30 percent of all African Americans who complete their baccalaureate degrees annually. HBCUs are the largest producers of African American teachers and baccalaureates in science and technology. Additionally, a higher percentage of Black PhD candidates from HBCUs complete their degrees than those from non-HBCUs, 42 percent each year, to be exact. We also are building our PhD programs to address the undersupply of African Americans in the science and technology fields as well as expanding our capacities to offer professional degree programs.

The enrollment and graduation rates of these institutions are most sensitive to even the slightest shifts in state and federal policies affecting college admission, retention, and completion. Therefore, for the last 40 years, HBCUs have served as the barometer that gives the earliest and most reliable indicators of whether new educational policies instituted by federal, state, or private sector policy makers will advance or retard the movement toward equality of educational opportunity. Even with all of this, the HBCU community continues to be under-recognized and under-funded as a national research and development laboratory for measuring the effects of this country's existing and evolving educational policies, particularly at the federal level.

S. 414 and Recent Findings Related to Internet Technology

There are two major dimensions to the digital divide: (1) providing access to information technology (IT); and (2) expanding the application and use of information technology. S. 414 seeks to address both of these issues and helps to remedy the issue of the digital divide that exists among HBCUs and other MSIs as well as the communities they serve. The bill seeks to strengthen the institutional capacity by providing up to \$2.5 million per institution for:

1. Equipment, instrumentation, networking capability, hardware and software, digital network technology, and the infrastructure necessary to teach students and teachers about technology in the classroom;
2. The development of educational services, including faculty development and student preparation;
3. Teacher education, library and media specialist training, and preschool and teacher aid certification to individuals who seek to acquire or enhance technology skills in order to use technology in the classroom or instructional process;
4. The implementation of a joint project to provide education regarding technology in the classroom with a state or local education agency, community-based organization, national non-profit organization, etc.; and
5. Leadership development to administrators, board members, and faculty of eligible institutions with institutional responsibility for technology education.

A 1999 Department of Commerce study, *Falling Through the Net: Toward Digital Inclusion*, found that although more Americans than ever before have Internet access, a “digital divide” exists among “those with different levels of income and education, different racial and ethnic groups, old and young, single and dual-parent families, and those with and without disabilities.” Other national studies show similar findings, that among MSIs, there exist serious areas of digital divide in student Internet access, high-speed connectivity and insufficient infrastructure.

There is a large segment of society that is cut off from the infinite possibilities of the Internet revolution, because they do not have computer access and/or knowledge of web capabilities. As a result, there is lost opportunity for this segment to secure a better education, better employment, communication and commercial options, as well as needed health care information and assistance.

In 2000, with the support of the Department of Commerce, NAFEO completed a study entitled *Historically Black Colleges and Universities: An Assessment of Networking and Connectivity* (see appendix). Half of the HBCUs surveyed did not have computers available in the location most accessible to students—their dormitories. Other findings of this landmark study, which appear in the appendix, include the following:

- Most HBCUs do not have high-speed connectivity to the Internet and World Wide Web. Only three percent of these colleges and universities indicated that financial aid was available to help their students, 75% of whom do not own their own computers, close the “computer ownership gap.”
- Approximately 88% of HBCUs have access to T-1 lines from their local ISPs and operating companies and connect to their networks using single or multiple T-1 lines. However, a single T-1 line is not sufficient to provide a large campus with effective bandwidth for 21st century connectivity. The more bandwidth capacity an HBCU has, the more possibilities that institution may have for participation in advanced projects such as Internet2, which may be one of the key areas that hold back HBCUs from making the digital leap into this century.
- Extensive connectivity to a global community appears to be underutilized among HBCUs. Connectivity beyond the campus borders only extends to regional and/or statewide networks, or in a few instances to the federal government.
- Out of the 80 HBCUs responding to the Commerce study, only 31% indicate that they network with state college systems, 13% network with the K-12 school districts, 20% with the federal government, and 5% with commercial vendors.
- Seventy-six percent of the participating schools estimate that fewer than 25%, or 1 out of every 4 HBCU students, personally own computers. This contrasts with the 1999 Campus Computing Study, which reports that among all institutions of higher education, 49 percent, or about one out of every two students personally own their own desktop or notebook computers.

NAFEO's Long Term Goals

Based on the findings in the HBCU Technology Assessment Study, NAFEO's mission is to foster a positive environment for the achievement of the following long-term goals mentioned in that study:

- To strengthen the capacity of HBCUs to participate in the national effort to improve the Nation's technology and telecommunications infrastructure and research enterprise;
- To improve the quality of education for students attending HBCUs, by encouraging policies and leadership that support the telecommunications infrastructure necessary for campus wide connectivity and workforce productivity; and
- To strengthen NAFEO's capabilities and role as a national service organization that provides research, evaluation, and dissemination of information about telecommunications and technology infrastructure to HBCUs and minority institutions.

HBCUs have been the trailblazers and standard bearers for equal opportunity and have been the beacons of light for African American communities for over 150 years and they provide the optimum venue to help this nation remedy problems associated with the digital divide. Without these institutions, this nation would not have African American participation in the professions, the military, the legislatures, and in business. Clearly, it is in the best national interest to seize the opportunity to more fully utilize HBCUs to address the crises of the digital divide in African American communities and other communities of color. As stated previously, the passage of S. 414 is a step in that direction. This legislation will offer a significant opportunity for those institutions serving the largest concentrations of the nation's minority and low-income students to keep pace with the advancing technologies of the 21st century.

Additionally, passage of S. 414 will serve as a catalyst that promotes a technological and research trend that is so desperately needed at these institutions. It will go a long way in promoting the establishment of a technology-based curriculum that enables HBCUs to recruit, retain, and graduate students who are more competitive in the increasingly technology-based global economy and in the graduate and professional institutions. It will allow HBCUs to have more involvement in basic research to develop new technologies, which is the most desirable and effective method for assuring that HBCUs have the amount and level of technology needed for their administration, academic programs, student usages, and community outreach. It also will assist HBCUs in working with IT corporations and efforts to have them "mentor" HBCUs. For instance, consistent with provisions contained in the measure, major companies could adopt one college and work with the institution in assessing and implementing long-term IT strategies. Ultimately, this funding will allow the institutions to access and increase their individual technology needs, thereby making them more competitive.

Unique Provisions and Special Significance of S. 414

Clearly, the provisions of S. 414 address almost all of the technology deficiencies identified in the NAFEO study by providing grants up to \$2.5 million for each eligible institution to address technology needs related to infrastructure, networking, faculty development and student

preparation, teacher education and media specialist training, community outreach, and leadership development. Such aid would not only strengthen our technological capabilities, but also enhance our inter-institutional relationships and our community outreach. HBCUs and other MSIs would truly become leaders in helping to close the digital divide, which is widest in the communities we serve.

We are aware that the Commerce Department alone cannot shoulder the responsibility for closing the digital divide, however, the enactment of S. 414 will make an indelible and profound contribution to national goals related to global competitiveness. Moreover, its breadth of permissible activities serves as a model that encourages and can be easily replicated by public and private entities that need to be enlisted in this monumental effort.

There are two unique provisions that we think will broaden the reach of S. 414:

1. It provides incentives for private and public contributions, and partnerships to address the technology needs of MSIs and to improve internet access and technology usage in the communities they serve. MSIs should be involved in the research and development of cutting edge technology to assure that they can secure and maintain state-of-the-art technology. Furthermore, they should be involved in the economic development of their communities around the new economy, including training as well as entrepreneurial development.
2. It includes provisions for the assessment of this initiative to ensure that the funding needs of MSIs are met and that there is an equitable distribution of the funding. MSIs are diverse programmatically and geographically. Also, by virtue of the populations served, they have limited resources to stay abreast of this fast paced technology revolution. The role of the Department of Education in evaluating this project annually to determine its effectiveness in meeting the goals of this legislation and to determine appropriate levels of funding is very important. We hope, therefore, that adequate resources will be made available to carry out this function and to assure future support of this project.

Conclusion

In conclusion, I want to assure you that NAFEO, AIHEC, and HACU are collaborating through the Alliance for Equity in Higher Education on matters affecting the future of our institutions and the communities we serve. The Alliance, with support from the Kellogg and Mott Foundations, works to build a consensus among MSIs in order to enhance our abilities to address common public policy issues. This year, we are devoting much of our attention to our technology needs, and we have formed an expert group made up of persons from our institutions to help assess our capacities and to develop strategies for addressing them. The Alliance, based in Washington, DC, also has submitted testimony for the record on behalf of its members and in support of S. 414. Additionally, we will be working collectively with the United Negro College Fund and other supporters for passage of S. 414.

This concludes my testimony. Again, on behalf of the National Association for Equal

Opportunity in Higher Education and its member institutions, I thank you for the opportunity to appear before you today. I would be happy to answer any questions.